



The Case of the Shattered Spawn Point

Grade 7 math · Integers, Percentages, Order of operations, Exponents, Two-step equations · Reading level grades 7-9

Detective: _____ **Date:** _____

Someone grieved the main lobby of Craftia Prime and stole the golden Ender Dragon egg! As the lead admin, you must analyze the server logs, trace the redstone signals, and find the culprit before the server crashes.

1. Solve each math problem. The answer is a number, and the letter beside it is what that number stands for.
2. In the clue boxes, write that letter in every box showing the same number, then read the secret clue.
3. Use each clue to cross suspects off the list. The one suspect left at the end is the culprit!

My answer: the griefer is _____

Possible suspects

Cross off a row as each clue rules it out. The one left at the end is the culprit.

NAME	PRIMARY SERVER SKILL	SECONDARY SERVER SKILL	SKINS STYLE	HAIR BLOCK STYLE	SERVER DEFENSE WEAKNESS
Aphmau	dragon riding	enchanted elytras flying	classic player skin	spiky blocky hair	splashed water bottles
Tubbo	speed bridging	custom potion brewing	classic player skin	pixelated blue hair	splashed water bottles
CaptainSparklez	wither summoning	custom potion brewing	classic player skin	neon green hair	splashed water bottles
Skeppy	speed bridging	enchanted elytras flying	custom hd skin	pixelated blue hair	splashed water bottles
Sapnap	redstone hacking	tnt duping	custom hd skin	spiky blocky hair	sound of phantom screams
Techno	wither summoning	ender pearl teleporting	custom hd skin	neon green hair	splashed water bottles
LDShadowLady	dragon riding	ender pearl teleporting	classic player skin	spiky blocky hair	splashed water bottles
Docm77	command block coding	ender pearl teleporting	classic player skin	pixelated blue hair	proximity to cats
Smajor	wither summoning	bedrock breaking	classic player skin	spiky blocky hair	sound of phantom screams
Xisuma	dragon riding	ender pearl teleporting	custom hd skin	spiky blocky hair	proximity to cats
Ranboo	wither summoning	enchanted elytras flying	custom hd skin	neon green hair	sound of phantom screams
BadBoyHalo	dragon riding	custom potion brewing	custom hd skin	neon green hair	sound of phantom screams
Steve	redstone hacking	enchanted elytras flying	classic player skin	pixelated blue hair	proximity to cats
Mumbo	redstone hacking	custom potion brewing	custom hd skin	spiky blocky hair	sound of phantom screams
Grian	speed bridging	bedrock breaking	custom hd skin	neon green hair	splashed water bottles
Stampy	redstone hacking	tnt duping	custom hd skin	neon green hair	sound of phantom screams
DanTDM	dragon riding	enchanted elytras flying	custom hd skin	spiky blocky hair	sound of phantom screams
HermitBC	command block coding	custom potion brewing	custom hd skin	spiky blocky hair	sound of phantom screams
Alex	redstone hacking	enchanted elytras flying	classic player skin	spiky blocky hair	splashed water bottles
Shubble	redstone hacking	ender pearl teleporting	classic player skin	neon green hair	sound of phantom screams
Dream	redstone hacking	ender pearl teleporting	custom hd skin	spiky blocky hair	sound of phantom screams

CLUE 1

We checked the coordinate logs in the Nether portal room. By comparing depths below the sea-level baseline using negative and positive integer values, we can map where the suspect went.

Solve each problem, then write its letter in every clue box that shows the same number.

The diagram shows two rows of boxes, each with a number below it. The top row has 15 boxes, and the bottom row has 10 boxes. Some boxes are shaded orange and contain the letter 'T', while others are white and empty.

Row	Box 1	Box 2	Box 3	Box 4	Box 5	Box 6	Box 7	Box 8	Box 9	Box 10	Box 11	Box 12	Box 13	Box 14	Box 15
Top Row	T														T
	24	6	22	12	9	27	27	13	9	17	10	3	22	25	17
Bottom Row				T		T									
	16	25	22	24	17	24	10	16	29	9	17	30			

$$8 - (-4) = \boxed{} \rightarrow \boxed{\mathbf{V}}$$

$$(-4) + 34 = \boxed{} \rightarrow \boxed{\text{G}}$$

$$(-4) + 7 = \boxed{} \rightarrow \boxed{\text{O}}$$

$3 - (-10) = \boxed{} \rightarrow \boxed{\mathbf{A}}$

$13 - (-14) = \boxed{} \rightarrow \boxed{\text{L}}$

Scratch space:

CLUE 2 Percentages

An analysis of the corrupted chest locks shows their remaining durability percentages. Calculating the exact fraction of health left on the obsidian blocks will reveal our next clue.

Solve each problem, then write its letter in every clue box that shows the same number.

T									T							
50	34	28	37	8	37	56	28	4	50	20	28	3	53	37	3	

			T									
4	8	37	50	21	35	34	10	37	60	38	26	

$50\% \text{ of } 100 = \square \rightarrow \boxed{\text{T}}$

$25\% \text{ of } 152 = \square \rightarrow \boxed{\text{I}}$

$10\% \text{ of } 530 = \square \rightarrow \boxed{\text{R}}$

$50\% \text{ of } 56 = \square \rightarrow \boxed{\text{E}}$

$75\% \text{ of } 4 = \square \rightarrow \boxed{\text{A}}$

$25\% \text{ of } 140 = \square \rightarrow \boxed{\text{M}}$

$20\% \text{ of } 170 = \square \rightarrow \boxed{\text{H}}$

$25\% \text{ of } 84 = \square \rightarrow \boxed{\text{O}}$

$75\% \text{ of } 80 = \square \rightarrow \boxed{\text{K}}$

$25\% \text{ of } 40 = \square \rightarrow \boxed{\text{D}}$

$5\% \text{ of } 400 = \square \rightarrow \boxed{\text{W}}$

$20\% \text{ of } 20 = \square \rightarrow \boxed{\text{C}}$

$20\% \text{ of } 130 = \square \rightarrow \boxed{\text{N}}$

$25\% \text{ of } 224 = \square \rightarrow \boxed{\text{P}}$

$50\% \text{ of } 74 = \square \rightarrow \boxed{\text{S}}$

$50\% \text{ of } 16 = \square \rightarrow \boxed{\text{U}}$

Scratch space:

CLUE 3

Order of operations

The griever left a complex crafting recipe on the crafting table, requiring a specific sequence of double-chests, iron ingots, and redstone dust. Solve the order of operations to find the output.

Solve each problem, then write its letter in every clue box that shows the same number.

P													
92	58	31	46	25	34	29	95	68	30	28	114	68	66

P													
92	34	31	28	25	68	16	95	33	23	29	31	16	95

$12 \times 9 - 16 = \square \rightarrow \text{P}$

$8 \times 7 - 10 = \square \rightarrow \text{Y}$

$11 \times 4 - 10 = \square \rightarrow \text{H}$

$20 + 6 \times 8 = \square \rightarrow \text{O}$

$4 \times 12 - 15 = \square \rightarrow \text{C}$

$7 \times 9 - 5 = \square \rightarrow \text{L}$

$2 \times 11 - 6 = \square \rightarrow \text{M}$

$6 \times 6 - 8 = \square \rightarrow \text{N}$

$4 \times 12 - 23 = \square \rightarrow \text{T}$

$39 + 8 \times 7 = \square \rightarrow \text{S}$

$82 + 8 \times 4 = \square \rightarrow \text{D}$

$3 \times 11 - 4 = \square \rightarrow \text{E}$

$8 \times 7 - 25 = \square \rightarrow \text{A}$

$7 \times 5 - 5 = \square \rightarrow \text{U}$

$9 \times 3 - 4 = \square \rightarrow \text{R}$

$24 + 6 \times 7 = \square \rightarrow \text{F}$

Scratch space:

CLUE 4 Exponents

The automatic mob farm is spawning creepers at an exponential rate, doubling with each level. Calculate the exponent to find how many creepers will overload the system.

Solve each problem, then write its letter in every clue box that shows the same number.

W																	
256	216	289	4	9	25	32	36	144	8	100	324	361	16	4	196	100	324

169	243	8	343	243	49	49	169	216	36	196	216	25	216

$2^8 = \square \rightarrow \text{W}$	$17^2 = \square \rightarrow \text{F}$	$2^2 = \square \rightarrow \text{O}$	$7^2 = \square \rightarrow \text{T}$
$12^2 = \square \rightarrow \text{P}$	$2^3 = \square \rightarrow \text{I}$	$3^5 = \square \rightarrow \text{A}$	$10^2 = \square \rightarrow \text{K}$
$14^2 = \square \rightarrow \text{C}$	$6^3 = \square \rightarrow \text{E}$	$19^2 = \square \rightarrow \text{B}$	$5^2 = \square \rightarrow \text{N}$
$18^2 = \square \rightarrow \text{Y}$	$13^2 = \square \rightarrow \text{H}$	$3^2 = \square \rightarrow \text{U}$	$2^5 = \square \rightarrow \text{D}$
$7^3 = \square \rightarrow \text{R}$	$2^4 = \square \rightarrow \text{L}$	$6^2 = \square \rightarrow \text{S}$	

Scratch space:

CLUE 5**Two-step equations - the last clue**

We need to balance the hopper system. Set up a two-step equation to find how many diamonds must be removed from the main chest to keep the redstone current stable.

First solve each problem. Then find each answer in the numbered list below and cross that sentence out. One sentence will be left - that is exactly what the villain did!

Step 1 - solve these:

$4x + 6 = 54, x = \boxed{}$

$3x + 9 = 27, x = \boxed{}$

$5x + 8 = 58, x = \boxed{}$

$2x + 5 = 19, x = \boxed{}$

$6x + 7 = 73, x = \boxed{}$

$2x + 6 = 24, x = \boxed{}$

$5x + 7 = 47, x = \boxed{}$

$6x + 3 = 15, x = \boxed{}$

$2x + 9 = 19, x = \boxed{}$

$4x + 12 = 16, x = \boxed{}$

$2x + 4 = 10, x = \boxed{}$

Step 2 - cross out the sentence with each answer:

1. The villain alters the world rules with command block coding, then drills a hole through the floor with bedrock breaking.
2. The villain builds a massive skyway using speed bridging, then escapes into the night by ender pearl teleporting.
3. The villain builds a massive skyway using speed bridging, then drills a hole through the floor with bedrock breaking.
4. The villain alters the world rules with command block coding, then gains super strength from custom potion brewing.
5. The villain unleashes a three-headed beast using wither summoning, then drills a hole through the floor with bedrock breaking.
6. The villain disables the server firewall with redstone hacking, then gains super strength from custom potion brewing.
7. The villain swoops down from the clouds on a dragon, then escapes into the night by ender pearl teleporting.
8. The villain swoops down from the clouds on a dragon, then gains super strength from custom potion brewing.
9. The villain disables the server firewall with redstone hacking, then glides over the canyon using enchanted elytras flying.
10. The villain disables the server firewall with redstone hacking, then escapes into the night by ender pearl teleporting.
11. The villain unleashes a three-headed beast using wither summoning, then escapes into the night by ender pearl teleporting.
12. The villain swoops down from the clouds on a dragon, then glides over the canyon using enchanted elytras flying.

Answer Key

The Case of the Shattered Spawn Point

Culprit: HermitBC

command block coding · custom potion brewing · custom hd skin · spiky blocky hair · sound of phantom screams

Trail: Start 21 → Clue 1 19 → Clue 2 10 → Clue 3 6 → Clue 4 4 → Clue 5 1

Clue 1 (Integers): "THE VILLAIN DOES NOT USE TNT DUPING"

$10 - (-14) = 24$ (T) · $(-7) + 24 = 17$ (N) · $8 - (-4) = 12$ (V) · $19 - (-10) = 29$ (P) · $2 - (-7) = 9$ (I) · $(-4) + 34 = 30$ (G) · $(-13) + 19 = 6$ (H) · $(-4) + 20 = 16$ (U) · $(-4) + 7 = 3$ (O) · $(-13) + 35 = 22$ (E) · $(-10) + 35 = 25$ (S) · $3 - (-10) = 13$ (A) · $(-13) + 23 = 10$ (D) · $13 - (-14) = 27$ (L)

Clue 2 (Percentages): "THE SUSPECT WEARS A CUSTOM HD SKIN"

50% of 100 = 50 (T) · 25% of 152 = 38 (I) · 10% of 530 = 53 (R) · 50% of 56 = 28 (E) · 75% of 4 = 3 (A) · 25% of 140 = 35 (M) · 20% of 170 = 34 (H) · 25% of 84 = 21 (O) · 75% of 80 = 60 (K) · 25% of 40 = 10 (D) · 5% of 400 = 20 (W) · 20% of 20 = 4 (C) · 20% of 130 = 26 (N) · 25% of 224 = 56 (P) · 50% of 74 = 37 (S) · 50% of 16 = 8 (U)

Clue 3 (Order of operations): "PLAY THE SOUND OF PHANTOM SCREAMS"

$12 \times 9 - 16 = 92$ (P) · $8 \times 7 - 10 = 46$ (Y) · $11 \times 4 - 10 = 34$ (H) · $20 + 6 \times 8 = 68$ (O) · $4 \times 12 - 15 = 33$ (C) · $7 \times 9 - 5 = 58$ (L) · $2 \times 11 - 6 = 16$ (M) · $6 \times 6 - 8 = 28$ (N) · $4 \times 12 - 23 = 25$ (T) · $39 + 8 \times 7 = 95$ (S) · $82 + 8 \times 4 = 114$ (D) · $3 \times 11 - 4 = 29$ (E) · $8 \times 7 - 25 = 31$ (A) · $7 \times 5 - 5 = 30$ (U) · $9 \times 3 - 4 = 23$ (R) · $24 + 6 \times 7 = 66$ (F)

Clue 4 (Exponents): "WE FOUND SPIKY BLOCKY HAIR AT THE SCENE"

$2^8 = 256$ (W) · $17^2 = 289$ (F) · $2^2 = 4$ (O) · $7^2 = 49$ (T) · $12^2 = 144$ (P) · $2^3 = 8$ (I) · $3^5 = 243$ (A) · $10^2 = 100$ (K) · $14^2 = 196$ (C) · $6^3 = 216$ (E) · $19^2 = 361$ (B) · $5^2 = 25$ (N) · $18^2 = 324$ (Y) · $13^2 = 169$ (H) · $3^2 = 9$ (U) · $2^5 = 32$ (D) · $7^3 = 343$ (R) · $2^4 = 16$ (L) · $6^2 = 36$ (S)

Clue 5 (Two-step equations): surviving statement is box 4 → HermitBC

$4x + 6 = 54, x = 12$ · $3x + 9 = 27, x = 6$ · $5x + 8 = 58, x = 10$ · $2x + 5 = 19, x = 7$ · $6x + 7 = 73, x = 11$ · $2x + 6 = 24, x = 9$ · $5x + 7 = 47, x = 8$ · $6x + 3 = 15, x = 2$ · $2x + 9 = 19, x = 5$ · $4x + 12 = 16, x = 1$ · $2x + 4 = 10, x = 3$